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**Cover:** *Oribius destructor* is one of about 50 species of small, flightless beetles within the genus *Oribius*. Most are restricted to the highlands of New Guinea. *Oribius destructor* Marshall is a major pest of horticulture in Papua New Guinea and is particularly damaging to citrus, apples, capsicums, strawberries and avocados. Damage is caused by the feeding of the adults, causing leaf shot-holing, stem and fruit scarring, and branch dieback. Illustration by Amy Carmichael.



## A NEW SUBSPECIES OF *GRAPHIUM KOSII* MÜLLER & TENNENT (LEPIDOPTERA: PAPILIONIDAE) FROM NEW BRITAIN, PAPUA NEW GUINEA

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### Abstract

*Graphium kosii gigantor* subsp. n. is described and illustrated from New Britain, Papua New Guinea. Its external facies and behaviour are compared with the nominate subspecies from New Ireland.

### Introduction

The *weiskei* group of *Graphium* Scopoli comprises six closely related, allopatric species: *G. macleayanum* (Leach), *G. weiskei* (Ribbe), *G. batjanensis* Okano, *G. stresemanni* (Rothschild), *G. kosii* Müller & Tennent and *G. gelon* (Boisduval). All are restricted to the Australian Region, from Maluku in eastern Indonesia, throughout New Guinea, including the Bismarcks, to eastern Australia and New Caledonia. With the exception of *G. macleayanum* and *G. gelon*, all species are confined to montane regions. Müller and Tennent (1999) presented a key to all species.

*Graphium kosii* (Figs 1-2) was known previously only from the type series collected by one of us (CM) at high altitude in the Hans Meyer Range, southern New Ireland. In describing the species, Müller and Tennent (1999) suggested that *G. kosii* would likely be discovered on New Britain. Here we describe a large, distinctive new subspecies from specimens collected in the Whiteman Range, West New Britain during December 2005, and the Gazelle Peninsula, East New Britain during November 2007.

### *Graphium kosii gigantor* subsp. n.

(Figs 3-4)

*Types.* Holotype ♂, PAPUA NEW GUINEA: Whiteman Range, West New Britain, 1050 m, 10-18.xii.2005, C.J. Müller, in Australian National Insect Collection, Canberra. *Paratypes:* 1 ♂, same data as holotype, in C.J. Müller collection, Sydney; 5 ♂♂, 1 ♀, Gazelle Peninsula, East New Britain, 1000 m, 12-19.xi.2007, L.R. Wills, in L.R. Wills collection, Wellington.

*Description.* Male (Figs 3-4). Forewing length 45 mm; antenna 20 mm. Head light grey, clothed with dense grey hairs; labial palpus grey; antenna brown with club dorsally black. Thorax densely haired, light to medium grey, beneath with slight pink tinge; legs green. Abdomen with thick hairs, grey-brown above and yellow-brown beneath. Forewing upperside with ground colour black; a series of small, white submarginal spots from near costa to vein CuA<sub>2</sub>; a large, rounded, deep green subapical patch; a large, 'hour-glass'



shaped marking in distal portion of cell, bright green in costal 1/3 and bright turquoise in remainder; two smaller turquoise spots in median area at end of cell to vein CuA<sub>1</sub>; a large, basal turquoise area below cell and vein CuA<sub>1</sub>, not extending beyond median area. Forewing underside with ground colour brown in postmedian and apical area, dark brown/black in remainder; a series of white submarginal spots as on dorsal surface, including additional spot below vein CuA<sub>2</sub>; blue-white replacing turquoise markings of upper surface and green as above, except for additional large green cell patch occupying 3/4 of the cell. Hind wing relatively broad, with spatulate tail at vein CuA<sub>1</sub>; inner margin with fold supporting numerous dense grey hairs; lobed conspicuously at tornus. Hindwing upperside with ground colour black; deep blue-green basal area occupying 2/3 of cell; basal area white between veins Rs and costa; a small irregular white spot in apical area with a vestigial blue spot behind it; two well spaced, turquoise tornal spots between veins M<sub>3</sub> and CuA<sub>2</sub>; tornal lobe dark brown/black. Hindwing underside with ground colour deep brown, darkening towards median area; a deep green basal area extending from bottom of cell and beyond; veins 1A+2A and CuA<sub>2</sub> slightly bowed proximally to costa; narrowly crimson along costa at base and near apex; a white line separating basal area from brown distal 2/3 of hind wing; an acute, narrow white bar in median area between veins CuA<sub>2</sub> and M<sub>3</sub>; brownish-white scales between inner margin and cell, absent below junction of cell and vein 1A+2A; brownish-white scales in submarginal area; vestigial bluish scales in tornal area identical in shape to tornal markings on upperside.

Female. Forewing length 48 mm; antenna 21 mm. Wings paler and more rounded than those of male. One female observed in the field at the type locality (see Discussion) was significantly larger than those of *G. k. kosii*. The paratype female is not illustrated due to its very poor condition.

## Discussion

*Graphiom kosii gigantor* is a large, striking taxon, readily separable from the nominate subspecies. Apart from its larger size, it has longer hindwing tails than *G. k. kosii* and the forewings are more elongate. The pale blue median area on the upperside of the forewing is also more restricted in *G. k. gigantor* than in *G. k. kosii*. The genitalia of the two taxa were not compared in this study.

In the field, *G. k. gigantor* showed different habits from those of *G. k. kosii*. Males of the former established territories at the tops of mountains, which they vigorously defended while flying in tight circles well above the canopy. In West New Britain, males were collected by standing in the uppermost branches of the tallest trees and using very long net handles. Males of *G. k. kosii* were readily lured to within reach with bright objects, yet those of *G. k. gigantor* showed no attraction, even if the lures were attached to long poles and elevated above the canopy.



**Figs 1-4.** *Graphium kosii*, males. Odd numbers upperside, even numbers underside. (1-2), *G. k. kosii* (Hans Meyer Range, New Ireland); (3-4), *G. k. gigantor* (East New Britain). Figures natural size.



In West New Britain, a female *G. k. gigantor* was observed to oviposit on the fresh growth of a monimiaceous tree about 15 metres above the ground. The foliage was searched but no eggs were located. The tree was possibly a species of *Dryododaphne* (Monimiaceae), which has been recorded as a potential food plant for *G. weiskei* in mainland Papua New Guinea (Braby and Armstrong 2001).

### Acknowledgements

David Lindley, John Kirakar and Peter McNeil of New Guinea Gold (formerly Macmin) were exceptionally generous in providing access to the type locality of *G. k. gigantor* by helicopter.

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# A NEW SPECIES OF *SISYRA* BURMEISTER (NEUROPTERA: SISYRIDAE) FROM THE PAROO RIVER, NORTHWESTERN NEW SOUTH WALES

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## Abstract

*Sisyra potamophila* sp.n. is described from the Paroo River, Nocolche Nature Reserve, New South Wales. A key to the eight known species of Australian Sisyridae is included.

## Introduction

Members of the neuropteran family Sisyridae (spongillaflyies) are uncommon insects in Australia. Eight species are now known from the continent, most of them from few localities. Adults are usually taken by beating, sweeping, at light or in Malaise traps adjacent to freshwater dams, lakes or streams. Larvae are aquatic and feed on freshwater sponges.

New (1996) provided a catalogue of the six previously known Australian species: *Sisyra tropica* Smithers (Daintree, Lake Placid, Gordonvale and Mulgrave River, all in the Cairns region of NE Queensland), *Sisyra brunnea* Banks (Claudie River, Kuranda, Gordonvale, Mulgrave River, Cedar Creek and Brisbane, Qld), *S. punctata* Banks (Burnside Station, Northern Territory; Rocky River and Bundaberg, Qld), *S. turneri* Tillyard (Armidale, New South Wales), *S. rufistigma* Tillyard (Coutts Crossing, Orara River, Apsley Falls and Royal National Park, NSW) and *S. esbenpeterseni* Handschin ('Northern Australia' and Jim Jim Waterhole, Northern Territory). The two additional species are *Sisyra potamophila* sp. n. from the Paroo River, Nocolche Nature Reserve, NSW and an undescribed species of *Sisyra* Burmeister from Lake Pedder, Tasmania, which will be described elsewhere.

Esben-Petersen (1918) considered *S. rufistigma* to be a synonym of *S. brunnea*, a conclusion accepted by Handschin (1935) when he described *S. esbenpeterseni*. Smithers (1973) took a more cautious approach, preferring to await more information on the morphology (especially that of the male genitalia) of the two species before making a decision on their synonymy.

## *Sisyra potamophila* sp. n.

(Figs 1-4)

*Types.* Holotype ♂, NEW SOUTH WALES: light trap, Paroo River, Nocolche Nature Reserve (29.84833S, 144.13512E), 1.iv.2005, G. Theischinger. *Paratypes:* 1 ♂, 3 ♀♀, same data as holotype, G. Theischinger. Holotype and paratypes in the Australian Museum, Sydney.

*Description.* Male. Colouration (in alcohol): Vertex shiny brown, darker in occipital region, especially in middle. Head behind eyes laterally dark brown. Epicranial suture darker, almost black. Frons brown. Clypeus and labrum pale. Scape and pedicel as vertex, flagellum paler, of uniform colour



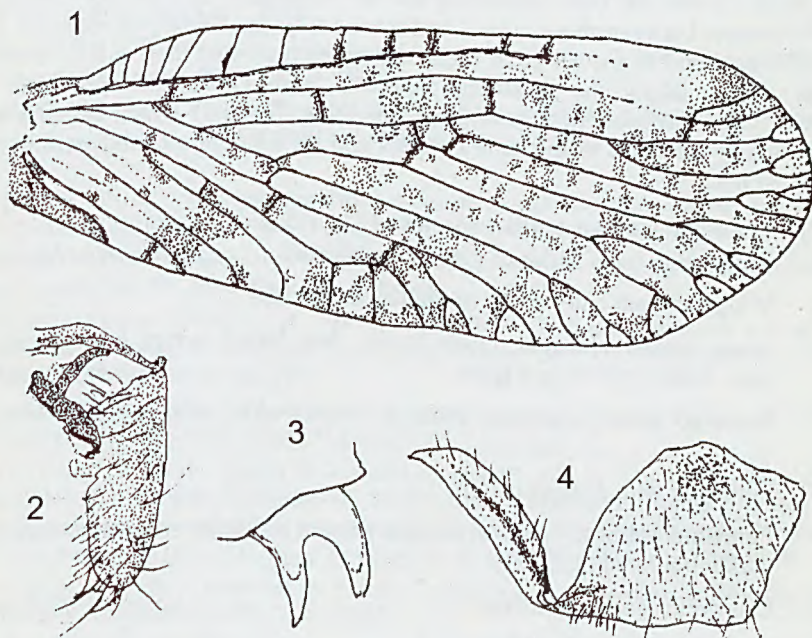
throughout. Eyes black. Maxillary palps pale, distal segment brown. Pronotum shiny, a little darker than vertex. Meso- and metanotum shiny, colour as pronotum, with darker median suture, paler on each side of suture, especially posteriorly. Scutellum brown with darker spot adjacent to end of median mesonotal suture. Pleural sclerites of meso- and metathorax dark brown, a pale area just below wing bases and another just dorsal to base of coxae. Legs pale except for brown coxae of meso- and metathoracic legs. Forewings (Fig. 1) hyaline with variable, irregular pattern of small brown patches and spots. Costal cross veins in distal part of costal cell bordered with brown as are other cross veins, except those in basal part of costal cell. Much of pterostigma and a small area of wing immediately posterior to it hyaline, forming a transparent 'window' in which veins are poorly developed and dark pigment absent, the pterostigmal limits therefore not distinct. Abdomen pale, ventrally with a row of distinct, narrow, transverse, sclerotised dark brown bands adjacent to either side of intersegmental areas. Entoprocessus (claspers) (Fig. 2) conspicuously dark brown in contrast to otherwise pale abdomen.

**Morphology:** Length of body 3.6 mm. Head and dorsal surface of thoracic segments setose, the setae mostly pale and very fine except for a group of dark, more rigid setae between and posterior to bases of the antennae. Median epicranial suture ends about half way between back of vertex and line of insertion of bases of antennae. Forewing length 4.3 mm. Forewing (Fig. 1, setae not shown) main veins with single row of strong setae. Main veins mostly with two distal bifurcations near wing margin. Wing margin with more than one row of setae along anterior margin from wing base to apex, beyond which there is a single row. Trichosors mostly poorly developed. About 14 costal crossveins. Vein Sc evanescent in the indistinctly defined pterostigma. Hind wings with eight costal crossveins basad of pterostigmal area. Subcosta ends in vein R<sub>1</sub>. Veins setose. In central area of wing setae are arranged alternately in pairs on the veins so that the setae cross each other. Wing margin strongly setose. Some marginal setae near wing apex also point in different directions and cross one another. Claspers (entoprocessus) (Fig. 2, right clasper illustrated) in the form of well sclerotized, setose, elongate, almost parallel-sided lobes, each terminating in a stout, forked plate (Figs. 2 and 3). In lateral aspect claspers have a straight lower margin and a slightly sinuous upper margin. Parameres (Fig. 2, right paramere associated with right clasper) heavily sclerotised, anteriorly divided, rod-like structures ending posteriorly in a sharp hook. The gonarcus (Fig. 2) is a strongly sclerotised, simple, transverse band lying anterior to the bases of the claspers. The ectoprocts consist of a simple transverse, setose sclerite, medially narrowed, lying anterior to the gonarcus and bearing a group of five or six trichobothria in the broadest area near each end.

**Female.** Colouration (in alcohol) as for male. Tergite 9 (Fig. 4) conspicuously dark in contrast to pale areas of abdomen. Sternite 9 with dark median band



along its length. General morphology similar to that of male. Larger than male; length of body 4.3 mm. Forewing length 4.4 mm. Ninth tergite and gonapophyses laterales (ninth sternite) as in Fig. 4.



**Figs 1-4.** *Sisyra potamophila* sp. n. (1), male forewing; (2), male clasper, paramere and gonarcus, right side; (3), posterior end of right clasper (enlarged); (4), female 9th tergite and sternite, right side.

### Discussion

Species of *Sisyra* Banks are easily distinguished from those of *Sisyra* by the presence of a series of outer gradate crossveins in the fore and hind wings in *Sisyra* (Banks 1939, Parfin and Gurney 1956, Smithers 1973). The described Australian species of *Sisyra* differ from *S. potamophila* as follows: The antennae in *S. punctata* have a greatly elongated scape and in the forewings the veins are pale and dotted with conspicuous brown spots. In *S. turneri* the forewings are pale brown with a pattern in various shades of brown, the pattern not made up of small spots and patches to give a speckled effect as in *S. potamophila*. The antennal flagellum is black throughout in *S. turneri*. In *S. esbenpeterseni* the crossveins in the forewings are not heavily

marked and the forewing membrane is uniformly smoky brown. In *S. brunnea* most of the major cells in the forewings have a median dark streak running along their length; these are not present in *S. potamophila*. In *S. rufistigma* the pterostigma is reddish and the antennal flagellum has about the basal two thirds dark and the distal third pale (as in *S. brunnea*). The male claspers have not been described for all Australian species but obvious differences between these organs in *Sisyrina tropica*, *Sisyrina potamophila*, *S. rufistigma* and in species from other regions suggest that they will be useful for distinguishing the Australian species. Wise (1998) has provided a description (probably of *S. rufistigma* from New Zealand), which includes an outline of the shape of the male claspers and the ninth tergite and sternite of the female.

### Provisional key to Australian species of Sisyridae

- 1 Wings with outer series of gradate crossveins ..... *Sisyrina tropica*
- Wings without outer series of gradate crossveins ..... 2
- 2 Scape greatly elongate, much longer than broad; wings brown; veins pale, dotted with brown spots ..... *Sisyrina punctata*
- Scape not greatly elongate, about as long as wide; wing patterns various ..... 3
- 3 Forewing with distinct pattern ..... 5
- Forewing uniformly brown, without pattern but some crossveins may be darkly bordered ..... 4
- 4 Crossveins darkly bordered ..... *Sisyrina rufistigma*
- Crossveins not darkened ..... *Sisyrina esbenpeterseni*
- 5 Pterostigmal area pale but opaque, translucent ..... *Sisyrina potamophila* sp. n.
- Pterostigmal area normally pigmented ..... 6
- 6 Wing with submarginal pigmented band darker than rest of membrane, running from pterostigma, along hind margin of wing to near wing base ..... Undescribed *Sisyrina* sp. (Lake Pedder)
- Wing pattern without such marginal band ..... 7
- 7 Cells in middle of wing each with median, longitudinal dark streak ..... *Sisyrina brunnea*
- Cells in middle of wing without median dark streak ..... *Sisyrina turneri*

### Acknowledgements

The specimens described here were collected by Günther Theischinger during an ecological survey of the Paroo River, in the Nocolèche Nature Reserve, by



the then Environment Protection Authority (now Department of Environment and Climate Change). I thank Dr David Britton for providing work space in the Entomology Department of the Australian Museum, Sydney.

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## NEW DISTRIBUTION RECORDS FOR AUSTRALIAN BUTTERFLIES (LEPIDOPTERA: LYCAENIDAE) FROM BROOME, WESTERN AUSTRALIA

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### Abstract

New distribution records are provided for *Jamides phaseli* (Mathew) and *Famegana alsulus alsulus* (Herrich-Schäffer) from Broome, Western Australia.

### Introduction

Following a visit to Broome, Western Australia in 2001 (Peters 2006), I made a second visit in April 2006 and, while there, collected two additional butterfly species not recorded from the area by Braby (2000, 2004).

### New records

#### LYCAENIDAE

##### *Jamides phaseli* (Mathew)

Three females were collected at Broome on 6.iv.2006 and one female at Cable Beach, Broome on 7.iv.2006. Braby (2000) recorded this species from 'Willare Bridge on the Fitzroy River near Derby and the Mitchell Plateau, WA'. The present records extend the known distribution of this species some 170 km further west than previously recorded.

##### *Famegana alsulus alsulus* (Herrich-Schäffer)

One female was collected in the grounds of the Mercure Hotel, Broome on 5.iv.2006, another female in Broome on 6.iv.2006, and one male and two females at Cable Beach, Broome on 7.iv.2006. Braby (2000) recorded this species from 'Exmouth and Cape Range National Park, WA'. Williams *et al.* (2006) recorded it from various additional Western Australian localities, the closest to Broome being James Price Point, 50 km to the north of Broome.

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**SYSTEMATIC NOTES ON SOME SPECIES IN THE FRUIT FLY  
TRIBE TEPHRITINI (DIPTERA: TEPHRITIDAE: TEPHRITINAE)  
IN THE ASIAN AND PACIFIC REGIONS**

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**Abstract**

Four synonyms and two new combinations are proposed for several species of Tephritini described from India, Afghanistan, Kazakhstan, NW China and French Polynesia: *Tephritis darjeelingensis* Agarwal, Grewel, Kapoor & Rahman, syn. n. of *T. atocoptera* Agarwal & Kapoor; *Tephritis mongolica occidentalis* Dirlbek & Dirlbek and *T. connexa* Wang [not *T. connexa* Macquart], syns. n. of *T. mongolica* Hendel; *Tephritis ludhianaensis* Agarwal & Kapoor, syn. n. of *T. umbrosa* Dirlbek & Dirlbek; *Campiglossa pishanica* (Wang), comb. n. [transferred from *Tephritis* Latreille]; *Soraida angustipennis* (Malloch), comb. n. [transferred from *Campiglossa* Rondani]. Several other species of *Campiglossa* and *Tephritis* from Southeast Asia and the South Pacific are discussed, with records of *Campiglossa iracunda* (Hering) from India, Thailand and Vietnam and *Tephritis conura* (Loew) from India regarded as misidentifications.

**Introduction**

Continuing study of flower-infesting fruit flies in the Indo-Australian and Oceanian Regions has revealed four new synonyms and two new combinations among species in the *Tephritis* Latreille and *Campiglossa* Rondani groups of genera in tribe Tephritini. In addition, the identities of several other species from Southeast Asia and the South Pacific are discussed. These are complex, variable and speciose groups of flies and the following notes are offered as a contribution towards a better understanding of their taxonomy and biogeography. Comments are based largely on a literature review. It has not been possible to compare types or dissect their terminalia; most are unavailable for study. All species recorded here are presumed to breed in the flowerheads of Asteraceae.

*Campiglossa* group of genera

***Campiglossa iracunda* (Hering)**

*Paroxyna iracunda* Hering, 1938: 55. (Kambaiti, N. Burma).

*Campiglossa iracunda*: Wang, 1998: 262. (Yunnan Province, S. China).

*Comments.* Only records of *C. iracunda* from northern Burma (Hering 1938) and Yunnan in southern China (Wang 1998) appear to belong here. This species has a complete medial dark band in cell c, 3 or 4 hyaline indentations in cell r<sub>1</sub>, 2 hyaline marginal spots at the apex of cell r<sub>2+3</sub>, yellow legs, 3 dark thoracic vittae, a black posterior notopleural seta and large, dark abdominal spots. Hardy (1973) noted that it might be synonymous with *C. lyncea* (Bezzi) but his records, from Vietnam and Thailand, appear to be a mix of *C. lyncea* and *C. siamensis* (Hardy). Note that the illustration of *C. iracunda* in Kapoor (1993) is copied from Hardy (1973) and appears not to be this species, making doubtful a record (Kapoor *et al.* 1979) from India.

***Campiglossa lyncea* (Bezzi)**

*Tephritis lyncea* Bezzi, 1913: 165. (Darjeeling, West Bengal, N. India).

? *Stylia iracunda*: Hardy, 1973: 328. (*partim*: S. Vietnam). ? Misidentification.

? *Paroxyna iracunda*: Kapoor *et al.*, 1979: 148. (N. India). ? Misidentification.

*Campiglossa lyncea*: Norrbom *et al.*, 1999: 112. [as new combination].

*Comments.* *Campiglossa lyncea* is known from northern India (Bezzi 1913, Agarwal and Kapoor 1988) and southern Vietnam (Hardy 1973). Records of *C. iracunda* (Hering) from northern India (Kapoor *et al.* 1979, Agarwal and Sueyoshi 2005) and from Dalat and Mt Lang Bian in southern Vietnam (Hardy 1973) probably also belong here. This species appears to differ from *C. iracunda* in lacking distinct, dark thoracic vittae and abdominal spots, in having the femora often darkened, and in having the dark wing markings less extensive with a much reduced dark spot in the middle of cell c. It agrees with *C. iracunda* in having 2 hyaline marginal spots at the apex of cell  $r_{2+3}$ . Note that the illustration of *C. lyncea* in Kapoor (1993) is copied from Hardy (1973) and appears to be of a Vietnamese specimen.

***Campiglossa media* (Malloch)**

*Paroxyna media* Malloch, 1938: 116. (Rapa I., Austral Is, French Polynesia).

*Campiglossa media*: Norrbom *et al.*, 1999: 112. [as new combination].

*Comments.* This species is known only from Rapa, one of the most southerly of the Austral [Tubuai] Islands in French Polynesia. In common with other *Campiglossa* species, *C. media* has 2 pairs of frontal setae and a geniculate proboscis. It appears to be allied to *C. putrida* (Hering) from the Lesser Sunda Islands [Nusa Tenggara] in Indonesia and Papua New Guinea and to *C. crockeri* (Curran) from the Galapagos Islands; all three species have an entirely dark pterostigma and a large, round hyaline spot in cell  $r_{2+3}$  below the apex of vein  $R_{2+3}$ . Note that '*Trypeta*' *aesia* Walker from the Galapagos Islands was also included in *Campiglossa* by Norrbom *et al.* (1999) but appears to be better placed in *Euaesta* Loew (see Foote 1982). A second species from Rapa described in *Paroxyna* Hendel by Malloch (1938) is transferred to *Soraida* Hering [see below].

***Campiglossa pishanica* (Wang), comb. n.**

*Tephritis pishanica* Wang, 1996: 188; 1998: 300. (Pishan, Xinjiang, NW China).

*Comments.* *Campiglossa pishanica* is known only from NW China (Xinjiang). As noted by Wang (1998), it is closely related to *C. coei* (Hardy) from Nepal and southern China (Yunnan). Both species have 5 dark thoracic vittae and a pair of distinct dark spots on each abdominal tergite; these, plus the wing pattern type (see Hancock and Drew 2003) are typical of genus *Campiglossa*, to which the species is referred. *C. coei* was included in *Tephritis* by Hardy (1964) and Wang (1998) but was placed in *Campiglossa* by Korneyev (1990) and Norrbom *et al.* (1999).



***Campiglossa siamensis* (Hardy)**

*Stylia siamensis* Hardy, 1973: 329. (Doi Angka near Chiang Mai, N. Thailand).

*Stylia iracunda*: Hardy, 1973: 328. (*partim*: N. Thailand). Misidentification.

*Campiglossa siamensis*: Norrbom *et al.*, 1999: 114. [as new combination].

**Comments.** Records of *C. iracunda* (Hering) from Doi Suthep and Doi Pui, [near Chiang Mai] in northern Thailand (Hardy 1973, including pl. 6, fig. 52) appear to be misidentifications of a variable *C. siamensis*. A specimen from Doi Suthep with reduced hyaline markings was illustrated by Hancock and McGuire (2002). *C. siamensis* has a much reduced dark spot in the middle of cell c, only one hyaline marginal spot at the apex of cell  $r_{2+3}$ , yellow legs and a brown to yellowish posterior notopleural seta. It resembles *C. lyncea* in lacking distinct thoracic vittae and abdominal spots but has a longer ov scape. The wing markings are paler than those of *C. lyncea* (*c.f.* Hardy 1973, pl. 6, figs 53-54) but, apart from the single marginal hyaline spot in cell  $r_{2+3}$ , they are otherwise similar.

***Campiglossa spenceri* (Hardy)**

*Stylia spenceri* Hardy, 1973: 330. (Mt Lang Bian & Dalat, S. Vietnam).

*Campiglossa spenceri*: Wang, 1998: 271. (Sichuan & Xizang Provinces, China).

**Comments.** This species has a wing pattern very similar to that of *C. iracunda* but has mostly black femora, a whitish posterior notopleural seta and no dark thoracic vittae. It differs from *C. iracunda*, *C. lyncea* and *C. siamensis* in the shorter ov scape, being as long as the last 2 abdominal segments in *C. spenceri*, as long as the last 3 in *C. iracunda* and *C. lyncea* and a little longer than the last 4 in *C. siamensis*. It is known from southern Vietnam and southwestern China (Sichuan and Xizang).

***Soraida angustipennis* (Malloch), comb. n.**

*Paroxyna angustipennis* Malloch, 1938: 115. (Rapa I., Austral Is, French Polynesia).

*Campiglossa angustipennis*: Norrbom *et al.*, 1999: 108. [as new combination].

**Comments.** This species was described from Mt Tepiahu on Rapa, one of the Austral [Tubuai] Islands in French Polynesia. Only the type male has been recorded. Previously referred to *Campiglossa*, it shares with *Soraida tenebricosa* Hering, its only known congener from the Indonesian Lesser Sunda Islands, the presence of 3 pairs of dark frontal setae; all other Indo-Australian and Pacific genera referred to the *Campiglossa* group have only 2 pairs of dark frontal setae. The genus-group placement of *Soraida* was discussed by Hancock (2007). Other genera in the *Campiglossa* group with 3 pairs of dark frontal setae are confined to the Afrotropical Region. Both *Soraida* species have the head slightly higher than long, the upper orbital and outer vertical setae white, the occiput black centrally, a geniculate but not greatly elongate proboscis, the anepimeral and several short anepisternal setae (below the black upper anepisternal seta) yellowish, short apical

scutellar setae, the wing narrowed and with a dark pterostigma that is about twice as long as wide and paler at its base. *S. angustipennis* differs from *S. tenebricosa* in having a narrower and more elongate wing with numerous hyaline spots and indentations.

### *Tephritis* group of genera

#### *Tephritis admissa* Hering

*Tephritis admissa* Hering, 1961: 326. (NE Afghanistan).

*Tephritis conura*: Hancock and McGuire, 2002: 15. (Gulmarg, Kashmir, NW India). Misidentification.

**Comments.** A record of *Tephritis conura* (Loew) from Gulmarg, Kashmir (Hancock and McGuire 2002, Agarwal and Sueyoshi 2005) is not of that species. The specimens concerned are in the Zoological Museum, University of Copenhagen and appear to belong to *T. admissa*, in which a hyaline subapical spot on the wing is present or absent (Hering 1961). *T. conura* has a large hyaline apical spot, a hyaline spot in the pterostigma and a third hyaline spot in cell  $r_1$  towards the apex; these are lacking in both typical *T. admissa* and the Gulmarg specimens. *Tephritis conflata* K. & J. Dirlbek, described from Kyrgyzstan, appears to be very similar to *T. admissa* but recorded differences include all thoracic setae black and an apparently shorter ov scape (Dirlbek and Dirlbek 1995). *T. admissa* is recorded here from 1600 to 3500 metres in NE Afghanistan and NW India (Kashmir).

#### *Tephritis atocoptera* Agarwal & Kapoor

*Tephritis atocoptera* Agarwal & Kapoor, 1988: 122. (Srinagar, Jammu and Kashmir, NW India).

*Tephritis darjeelingensis* Agarwal, Grewel, Kapoor & Rahman, 1992: 21. (Darjeeling, West Bengal, N. India). **Syn. n.**

**Comments.** As suggested by Hancock and McGuire (2002), variation in recorded leg colour, coupled with descriptions and illustrations of both taxa listed above (Agarwal and Kapoor 1988, Agarwal *et al.* 1992), leave little doubt that they are conspecific. This species has an elongate ovipositor and appears to be closely related to *T. hendeliana* Hering (= *T. heiseri* of authors [e.g. Hendel 1927, Wang 1998], not Frauenfeld), differing in the more extensive dark areas on the wing. It is known from localities above 1000 metres in N and NW India.

#### *Tephritis mongolica* Hendel

*Tephritis mongolica* Hendel, 1927: 191. (Kuku-Nor [Lake Qinghai] region, Qinghai, NW China). Lectotype destroyed.

*Tephritis mongolica occidentalis* K. Dirlbek & J. Dirlbek, 1995: 47. (Aksu-Dshabagly, Talazskiy Alatau, Tienshan, SE Kazakhstan). **Syn. n.**

*Tephritis connexa* Wang, 1996: 187; 1998: 295. (Qiemo, Xinjiang, NW China). Invalid name: preoccupied by *Tephritis connexa* Macquart, 1835. **Syn. n.**



*Comments.* Allowing for a small amount of variation, the descriptions and illustrations of both *T. mongolica* Hendel and *T. connexa* Wang (Hendel 1927, Wang 1998) leave little doubt that they are conspecific. The statement in Wang's (1998) key that the wing lacks a Y-shaped hyaline band in the anteromedian portion in *T. mongolica* is inaccurate [and perhaps based on the redrawn figure in Zia (1937)]. The number of hyaline spots in cells dm and cua<sub>1</sub> largely depends on their degree of coalescence. *T. connexa* Wang, 1996, is also a junior homonym of *Tephritis connexa* Macquart, 1835, a species currently unrecognised. Wang (1998) recorded additional specimens of *T. connexa* from Zhaosu and Oku in NW China, close to the type locality of *T. mongolica occidentalis* K. & J. Dirlbek (Dirlbek and Dirlbek 1995), which also appears to be a synonym. This species is known from localities between 1200 and 3000 metres in NW China (Qinghai & Xinjiang) and SE Kazakhstan. It also occurs in Kyrgyzstan (B. Merz, pers. comm.).

### ***Tephritis umbrosa* Dirlbek & Dirlbek**

*Tephritis umbrosa* J. Dirlbek & K. Dirlbek, 1968: 178. (Darunta & Jalalabad, Nengrahar Province, NE Afghanistan).

*Tephritis ludhianaensis* Agarwal & Kapoor, 1988: 121. (Ludhiana, Punjab, NW India). **Syn. n.**

*Comments.* Descriptions and illustrations of both *T. umbrosa* J. & K. Dirlbek and *T. ludhianaensis* Agarwal & Kapoor (Dirlbek and Dirlbek 1968, Agarwal and Kapoor 1988) leave little doubt that they are conspecific. As noted by Dirlbek and Dirlbek (1968), *T. umbrosa* is superficially similar to the Palaearctic *T. cometa* (Loew) and an earlier record of *T. cometa* from Afghanistan (Hering 1961) might also belong here; it at least requires confirmation. In *T. umbrosa* the dark subapical band in cell dm crosses the cell; in *T. cometa* it ends half way across. *T. umbrosa* is known from localities below 600 metres in NE Afghanistan and NW India.

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## A FURTHER NEW SUBSPECIES OF *DELIAS MESSALINA* ARORA (LEPIDOPTERA: PIERIDAE) FROM NEW IRELAND, PAPUA NEW GUINEA

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### Abstract

*Delias messalina gerritsi* subsp. n. is described and illustrated from central New Ireland. Its external facies are compared in detail with those of *D. m. lizae* Müller from southern New Ireland and their isolating mechanisms are briefly postulated.

### Introduction

Arora (1983) described *Delias messalina* Arora from the Solomon Archipelago, as the nominotypical subspecies from Bougainville, Papua New Guinea and as *D. m. orientalis* Arora from Guadalcanal and Santa Isabel, Solomon Islands. The latter locality is considered likely to be erroneous (Tennent 2002). The type series of *D. m. messalina* was taken during the late 1950s by Sir William Brandt close to, but prior to the discovery of, the Panguna copper-gold deposit in central Bougainville.

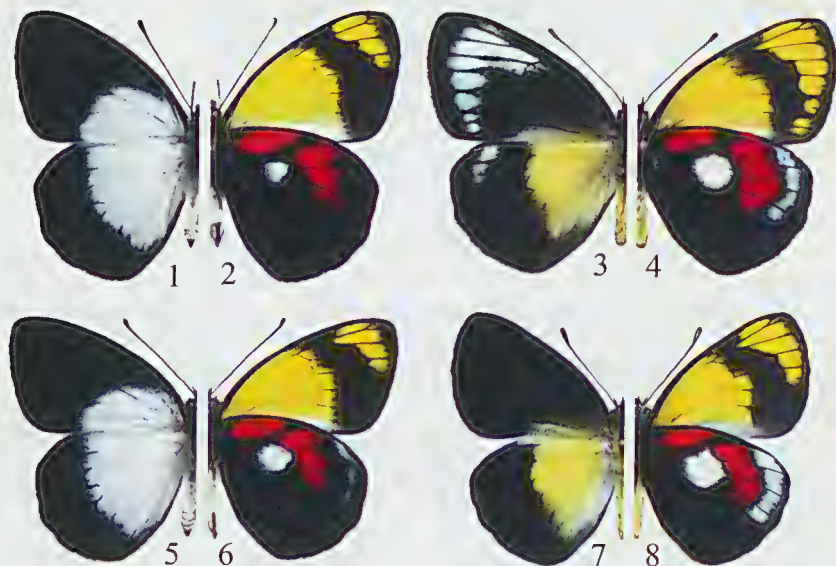
*D. messalina* was first recorded from the Bismarck Archipelago, Papua New Guinea, by Parsons (1989), who described *D. m. vigasa* Parsons from East New Britain. Subsequently, *D. m. lizae* Müller (Figs 1-4) was described from high altitudes in the Hans Meyer Range, southern New Ireland (Müller 1999), with additional localities recorded by Müller (2001). Male specimens from the Schleinitz Mountains in central New Ireland were noted by Müller (2001) to be quite distinct from those collected in southern New Ireland.

Collecting in recent years has yielded females of *D. messalina* from central New Ireland that are consistently very different from those of *D. m. lizae*. These and their associated males from the Schleinitz Mountains are described below as a new subspecies.

### *Delias messalina gerritsi* subsp. n.

(Figs 5-8)

*Types.* Holotype ♂, PAPUA NEW GUINEA: New Ireland, Schleinitz Mts, 1350 m, 4.ix.2005, C.J. Müller, in Australian National Insect Collection, Canberra. *Paratypes:* 1 ♂, 1 ♀, same data as holotype, in C.J. Müller collection, Sydney; 1 ♂, same data as holotype except 24-26.x.2000, in C.J. Müller collection; 1 ♂, same data as holotype except 24-26.x.2000, in Mike Carr collection, London; 1 ♂, same data as holotype, in J. Jakusch collection, Germany; 1 ♀, same data as holotype except xii.2005, in L. Wills collection, Wellington; 1 ♀, same data as holotype except 20.x.2005, in J. Jakusch collection.



**Figs 1-8.** *Delias messalina* from New Ireland. Odd numbers upperside, even numbers underside. (1-2), *D. m. lizae*, male; (3-4), *D. m. lizae*, female; (5-6), *D. m. gerritsi*, male; (7-8), *D. m. gerritsi*, female. All figures 0.75 x natural size.

**Description.** Male (Figs 5-6). Forewing length 30 mm; antenna 16 mm. Head black, clothed with dense, deep grey hairs; labial palpus black; eye ringed with pale yellow anteriorly; antenna black, tipped white ventrally. Thorax black with long grey hairs dorsally, beneath black; legs black. Abdomen white, narrow black dorsal ridge, tapered posteriorly; claspers grey. Forewing upperside with ground colour black; basally light grey in an arcuate manner from approximately 1/8 along costa to junction of veins  $CuA_1$  and cell and to dorsum 1/4 of distance from apex; underside black with bright yellow subapical band from costa to vein  $M_3$ , vestigial between veins  $R_3$  and  $R_{4+5}$  and intruding abruptly between veins  $R_3$  and  $M_2$ ; base to postmedian area brilliant yellow, abruptly changing to white below vein  $1A+2A$ ; costa broadly black to vein  $Sc$ . Hindwing upperside with ground colour as in forewing; a large basal to median/postmedian light grey area extending from costa near apex to end of cell and to dorsum, about 2/3 of distance towards tornus, congruent with termen; underside with ground colour black; a large, pure white spot in cell and beyond; a large, basal scarlet patch extending to vein  $Rs$ , rounded distally; one vestigial and two large scarlet markings in median area between costa and vein  $M_2$ , becoming irregular distally; a band of light grey scales near apex between veins  $Rs$  and  $M_3$ .



Female (Figs 7-8). Forewing length 30 mm; antenna 17 mm. Head, antennae, legs and labial palpi as in male. Thorax grey with dense, yellow-grey hairs; beneath black. Abdomen yellow, with narrow black dorsal line, tapering posteriorly; beneath cream-yellow. Forewing with costa and termen slightly bowed; dorsum slightly concave; upperside black with deep greenish basal area, progressively becoming yellow-green and extending to postmedian area at dorsum; underside black with large, pure white spot in cell and reaching beyond intersections of veins Rs and M<sub>1</sub>; a large, scarlet basal patch above cell and reaching vein Rs; a broad, conspicuous band of scarlet spots between costa and vein M<sub>3</sub>, in postmedian area; a band of silvery-grey markings from veins Sc to R<sub>1</sub>.

*Etymology.* This striking taxon is named in honour of Dr Godfried Gerrits of Buderim, Queensland who, over the years, has contributed significantly to our knowledge of the genus *Delias* Hübner.

*Distribution.* Known only from the Schleinitz Mountains, central New Ireland, Papua New Guinea.

## Discussion

*Delias messalina gerritsi* shows consistent, distinctive characters when compared with other subspecies of *D. messalina*, even *D. m. lizae*, which is known to occur within 200 km of *D. m. gerritsi*.

The males of *D. m. lizae* and *D. m. gerritsi* are similar in colouring on both wing surfaces, except that the former possesses a subtle, dull greenish lustre to the black areas on the upperside. Additionally, the wings of *D. m. lizae* males are more acute than those of *D. m. gerritsi* and, in all cases examined, males of the former are distinctly larger than those of *D. m. gerritsi*. The white spot on the hindwing underside of *D. m. gerritsi* is not circular as in *D. m. lizae*, nor is it confined to the cell. There is no red colouring between costa and postmedian band, unlike *D. m. lizae*, and there is a well developed submarginal band of light grey scales on the hindwing underside. Males show some similarity to those of *D. m. vigasa* from New Britain.

Females of subspecies *D. m. lizae* and *D. m. gerritsi* are very distinctive. In addition to the size and wing shape differences, the absence of white submarginal spots on the upperside in *D. m. gerritsi* is particularly notable. The pale area along the inner margin on the forewing upperside is grey-cream in *D. m. lizae* and yellow in *D. m. gerritsi* and, in the latter, the hindwing costa is distinctly white and extends towards the termen. The undersides of the two subspecies are also distinctive; that of *D. m. gerritsi* is similar in both sexes but the light grey submarginal band is much broader in the female than in *D. m. lizae*.

Parsons (1998) noted the disjunct affinity between the then known subspecies of *D. messalina* occurring in the Solomon Archipelago and New Britain. He

observed the similarity between *D. m. vigasa* (from New Britain) and *D. m. orientalis* (from Guadalcanal), whereas the nominate subspecies (from Bougainville) possessed some unique characters. Indeed, the upperside of the female in *D. m. gerritsi* resembles that of *D. m. messalina*, further emphasising the disjunctive distribution of 'similar subspecies'. However, all subspecies possess combinations of the morphological characters assessed in this work and there are no characters that are unique to a single described subspecies. Both subspecies occurring in New Ireland (*D. m. lizae* and *D. m. gerritsi*) are distinct from other subspecies in that they bear a lateral white spot on the thorax, which is otherwise wholly black and there is no yellow patch at the base of the hindwing underside along the costa, a character present in other subspecies.

The occurrence of two distinct subspecies of the same species on a single island in the Pacific is intriguing and has implications for the geological evolution of New Ireland. The Hans Meyer Range and Schleinitz Mountains in New Ireland, the habitats for *D. m. lizae* and *D. m. gerritsi* respectively, endured very separate genesis, both temporally and in style. The former range is almost entirely composed of andesitic volcanics which formed as an island arc during the late Miocene, approximately 10-15 million years ago, whereas the thick limestone sequence comprising the Schleinitz Mountains formed when sea floor sediments were uplifted along the northern edge of the Bismarck Plate much earlier, approximately 20 million years ago. It is suggested here that these two ranges were separated by sea until fairly recently, owing to the low-lying coronus (uplifted coral reef) that predominates for several tens of kilometres, east of Namatanai, New Ireland (C.J. Müller, pers. obs.). Such geographic isolation would undoubtedly have allowed for genetic divergence and phenotypic differentiation between populations of *Delias messalina* occurring on each mountain range.

Such disjunct morphological patterns between populations from these two mountain ranges in New Ireland have not been recognised in any other butterfly taxa. In particular, other *Delias* species collected in both ranges (*D. eximia* Rothschild, *D. totila* Heller, *D. narses* Heller, *D. bagoe* Boisduval, *D. madetes* Godman & Salvin and *D. brandti* Müller) show no noticeable contrast. In New Ireland, *D. messalina* appears to be confined to elevations above 1400 m, whereas the other taxa, except the higher altitude *D. brandti*, have been collected at 1000 m and occasionally lower, hence reducing the physical, geographic separation between the Hans Meyer Range and Schleinitz Mountains populations. Similar patterns may be observed in *Delias* species complexes in mainland New Guinea, where the highest degree of recent speciation appears to have occurred at higher altitudes, where populations are widely spaced. Population-style phylogenetic studies of *D. messalina* would likely constrain the timing of separation between the subspecies.



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## MISCELLANEOUS NOTES

The following note on the butterfly *Theclinessthes onycha* (Hewitson) is abstracted from the *News Bulletin of the Entomological Society of Queensland* and was first published in the volume and part indicated.

*Theclinessthes onycha onycha* (Hewitson) [Lycaenidae] After November 2005, a change in the hosts most frequently utilised by *T. onycha* was observed in the western suburbs of Brisbane, SE Queensland. Since 2005 the larvae have been attacking many cultivated cycads, as well as the local hosts, *Macrozamia* spp. The indigenous *Lepidozamia peroffskyana* was first attacked after 2005; it had not been observed previously to be a host for the butterfly. Feeding by larvae on many cultivated cycads has persisted to December 2007 and severe damage to new growth, including unopened leaves, has attracted attention from both the nursery industry and home gardeners. Observations in the western suburbs of Brisbane confirmed increases in abundance in bushland reserves, on hilltops and on ridge tops. The related *T. miskini* (T.P. Lucas) previously predominated as a hilltopping species on Mount Coot-tha but, since 2005, *T. onycha* has become the most abundant species, probably the result of increased breeding on cultivated cycads in gardens nearby. The butterfly has become a pest of cycads near Brisbane and on the Sunshine and Gold Coasts, SE Qld.

Distributional changes in host preferences by *T. onycha* were noted at various localities on the New South Wales coast from 22-25 May 2007, between Tweed Heads and Toukley. Damage was apparent on exotic cycads at several localities between Murwillumbah and Kempsey but not further south at Toukley. In Queensland, attack by larvae on many exotic cycads has increased substantially in 2007 between Beerwah and Pomona on the Sunshine Coast. In late December 2007, Professor Graeme Wilson noted females of *T. onycha* ovipositing on a potted plant (ca 1 m) of Wollemi Pine (*Wollemia nobilis*) at Brookfield, west of Brisbane. Examination showed more than 100 eggs had been deposited on very young foliage and two small larvae had commenced feeding [but, as of March 2008, no larvae have completed development on this plant]. Close to this plant a few eggs of *T. onycha* were observed deposited on terminal foliage of a young (<2 m) Hoop Pine (*Araucaria cunninghamii*) but no larvae or feeding scars were observed.

The abrupt changes in host preferences and abundance of *T. onycha* in 2005 coincided with periods of prolonged drought in SE Qld. Damage to exotic cycads coincided with decreases in production of new growth on native *Macrozamia* spp., the previously preferred hosts in SE Qld. The expanding distribution of the host-adapted butterflies may be due to a climate-related genetic shift for adaptation to less-preferred and non-native hosts. Stress from drought resulting in a reduction in young leaves of native *Macrozamia* spp. necessary for larvae, or an increase in the abundance of exotic species under cultivation, may also be contributing factors. It is interesting to note that, at Upper Brookfield, no increase in damage appears (to date) to have occurred on the previously preferred host *Macrozamia lucida* growing in moist eucalypt woodlands. Damage by larvae of *T. onycha* has not been observed on two other gymnosperms, Bunya Pine (*Araucaria bidwillii*) or Kauri Pine (*Agathis robusta*) growing near Pomona. – Host changes in the lycaenid butterfly *Theclinessthes onycha onycha* (Hewitson): a possible preference shift? – D.P.A. Sands – 35(9): 179-180. (2007[2008]).



## THE BURNHAM COLLECTION (LEPIDOPTERA): FROM REV. PÈRE J.B. PONCELET IN BOUGAINVILLE TO GOLD COAST GARAGE

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### Abstract

A butterfly collection inquiry at the Queensland Museum initially appeared to contain little scientific value. Further investigation, however, led to a historical chase through collections, databases, the web and literary records to determine the collection locality and collector of the specimens. Rev. Père J.B. Poncelet is followed through his collections on Bougainville to scientific acknowledgement in many biological arenas.

### Introduction

In mid 2007, one of us (CL) received a referral from the Queensland Museum inquiry desk concerning a phone call from Sam Burnham, who wanted some advice on a butterfly collection found in his Gold Coast garage while organising his late father's effects. The collection was housed in a single wooden box (Fig. 1) with a tightly sealed glass lid. On top of the contents was a folded sheet of *Nieuwe Rotterdamsche Courant*, an influential, Rotterdam based, liberal Dutch daily newspaper founded in 1844 by Henricus Nijgh (Wikipedia 2007), with the date clearly seen as 23 April 1925 (Fig. 2).

Inside the box (Fig. 1) were a matchbox containing headed pins (Fig. 3), one large envelope, three rolls of setting paper, a pack of No. 5 insect pins, many scattered insect pins, a cutout photograph of butterflies and 52 folded papers of various sizes (Figs 4-6). While 13 of the papers were plain (Fig. 5), 39 were made from folded pages removed from assorted books or periodicals, 19 of them Ecclesiastical (Figs 4, 6). These included pages from 'Studies in St Jerome and St Augustine', 'The Loneliness of the Priest', 'Eucharistic Preaching' (Figs 4, 6), 'The Little Israelite' from the 'Messenger' dated 1/3/17 (Figs 4, 6) and the American 'The Ecclesiastical Review' (Fig. 13), published between 1901-1943. Advertisements for Church furniture, Sabbath bells, school equipment, acoustic tiles for church walls and ceilings (Fig. 6) and statues (Fig. 11) were also featured.

### The collection

The papers contained an assortment of butterflies, mainly 'birdwings' (Papilionidae) (Figs 10-13), including four pairs of the CITES-listed Queen Victoria's birdwing, *Ornithoptera victoriae regis* (Rothschild, 1895) (Figs 10, 12) and 12 males and 11 females of the blue form of the northern birdwing, *Ornithoptera priamus urvillianus* (Guérin-Ménéville, 1838) (Figs 11, 13).

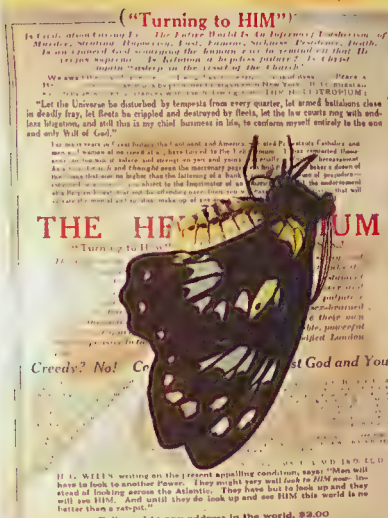


**Figs 1-9.** (1), inside the Burnham Collection box. (2), *Nieuwe Rotterdamse Courant* newspaper dated 23 April 1925. (3), matchbox containing headed pins. (4-6): folded papers: (4), Ecclesiastical papers: Eucharistic Preaching, The Little Israelite and part of an advertisement; (5), plain paper with 'Buin' and initials 'J.B.P.'; (6), Ecclesiastical papers: Eucharistic Preaching, The Little Israelite and an advertisement for 'Acoustile'. (7-9): butterflies within papers: (7), *Vindula arsinoe sapor*; (8), *Cyrestis acilia nitida*; (9), *Papilio phestus reductus*. Photographs by N. Starick.

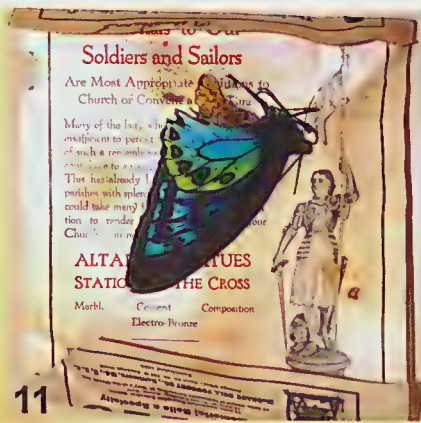




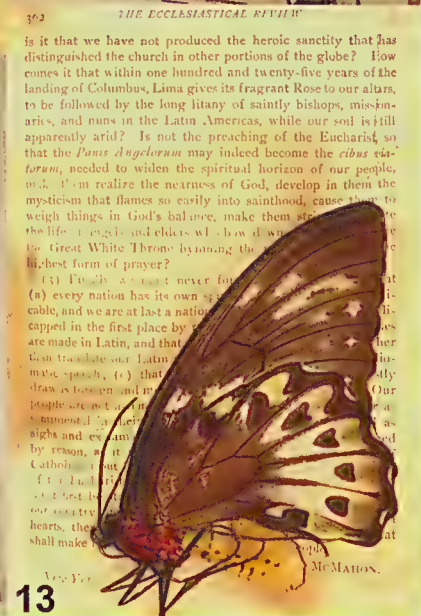
10



12



11



13

Figs 10-13. Birdwings. (10), *Ornithoptera victoriae regis* male; (11), *Ornithoptera priamus urvillianus* male among the statues; (12), *Ornithoptera victoriae regis* female 'Turning to HIM'; (13), *Ornithoptera priamus urvillianus* female in 'The Ecclesiastical Review'. Photographs by N. Starick.

The following butterfly species were also present: *Papilio phestus reductus* Rothschild, 1915 (Fig. 9) and *Papilio toboroi* Ribbe, 1907 (Papilionidae); *Catopsilia pomona* (Fabricius, 1775) and *Delias schoenbergi schoenbergi* Rothschild, 1895 (Fig. 15) (Pieridae); *Tellervo hiero hiero* (Godman &

Salvin, 1888) (Fig. 16) (Danainae), *Argyronympha pulchra* Mathew, 1886 (Fig. 18) (Satyrinae), *Cyrestis acilia nitida* (Mathew, 1887) (Fig. 8) (Apaturinae), *Phaedyma fissizonata pias* (Godman & Salvin, 1888) (Fig. 17) (Limenitidinae), *Mynes woodfordi woodfordi* Godman & Salvin, 1888 (Fig. 14) (Nymphalinae) and *Vindula arsinoe sapor* (Godman & Salvin, 1888) (Fig. 7) (Heliconiinae) [all family Nymphalidae] (Parsons 1998, Tennent 2002, 2006). Also included are two specimens of the large and conspicuous moth *Lyssa mutata* Butler, 1887 (Fig. 19) (Uraniidae).

Initial inspection of the collection indicated that the specimens had little scientific value, as no locality, date, or collector information was included. It was thought that an interested collector might be willing to set some of the specimens in a display box for the family in return for the remainder of the specimens, but closer examination identified considerable insect pest damage. The specimens were not suitable for mounting and display.

Our interest turned to where this collection originated. While *Ornithoptera priamus* (Linnaeus) is widespread from the Moluccas and New Guinea east to the Solomon Islands and south to Australia, the 'blue' form, *O. p. urvillianus*, has a much more restricted distribution of Solomon Islands, Bougainville and New Ireland, while *Ornithoptera victorae* Gray and *Lyssa mutata* are restricted to the Solomon Archipelago (Bougainville and the Solomon Islands). *Ornithoptera victorae regis* is known only from Bougainville, the Shortland Islands (Alu) and Choiseul (Haugum and Low 1978, Tennent 2002). The distribution of *Argyronympha pulchra* is limited to Bougainville and the western part of the Solomon Islands (Tennent 2002). Sam Burnham was able to inform us that his father, Jeffrey Thomas Burnham, had worked in Papua New Guinea and might have acquired the collection there.

The initials J.B.P. and the name Buin (a settlement in southern Bougainville) appear on several of the papers (Fig. 5). The possibility was considered that these specimens were collected by local villagers for a Father Poncelet, who supported his mission by exporting specimens from Buin to collectors in other countries, particularly Australia. The second author (TH) knows of two Australian collectors, the now deceased David and Fred Smith of The Gap, Brisbane, who possessed specimens of both *Ornithoptera priamus urvillianus* and *O. victorae regis* from Father Poncelet, that were probably collected by villagers.

### Poncelet's contribution to Science

There appear to be several butterflies named after Poncelet. *Papilio ponceleti* Le Moulton (a synonym of *Papilio woodfordi* Godman & Salvin, 1888) was described by Le Moulton (1933) from a pair originating from Kieta, a settlement on the east coast of Bougainville. Oddly, although it occupied a full page, the description of *Papilio ponceleti* did not specifically mention Poncelet himself.





**Figs 14-22.** (14-19): Lepidoptera within folded papers: (14), *Mynes woodfordi woodfordi*; (15), *Delias schoenbergi schoenbergi*; (16), *Tellervo hiero hiero*; (17), *Phaedyra fissizonata pisias*; (18), *Argyronympha pulchra*; (19), *Lyssa mutata*. Photographs by N. Starick. (20): *Ornithoptera 'allotiei'* in The Natural History Museum, London; photograph by J. Tennent. (21-22): Birdwings bearing Poncelet's name: (21), *Ornithoptera victoriae regis f. ponceleti* in The Natural History Museum, London; photograph by J. Tennent; (22), *Ornithoptera victoriae regis f. ponceletanus*; photograph by Mark Simon (Florida) and Gilles Deslisle (Canada).

A gynandromorph of *Ornithoptera victoriae regis* from Buin, now in The Natural History Museum, London (Fig. 21) was named *ponceleti* by Rothschild (1936). In his description of this fundamentally female *victoriae* with male coloration, Rothschild (1936) stated 'This extraordinary insect was sent to me by the Rev. Père Poncelet ... [from] Buin, Bougainville ... I name this ♀ f. *ponceleti* after its captor'.

Rousseau-Decelle (1946) later described another aberrant specimen of *Ornithoptera victoriae regis* from Buin (Fig. 22) as '*Papilio (Ornithoptera) victoriae regis* Rothschild f. indiv. ♂ *ponceletanus* Rousseau-Decelle' and said [in French] 'I dedicate this magnificent form of *victoriae regis* to R. P. Poncelet, the brilliant naturalist, for ... services to entomology and ornithology'.

Poncelet is recorded many times in association with zoological specimens, including birds. He is described as 'a missionary in the Buin area of Bougainville' who collected two of the first ten recorded specimens of the flightless Woodford's rail (*Nesoclopeus woodfordi* (Ogilvie-Grant, 1889) (Rallidae)) in the 1930s (Hadden 2002). His name also appeared in a very recent description of a new monotypic genus of frogmouth (Podargidae) from the Solomon Islands, where he is cited as 'Father J.B. Poncelet, a French missionary on Bougainville' who collected five of the earliest known specimens between 1936 and 1938; only 19 specimens are known to exist (Cleere *et al.* 2007). Danis (1937) included both these species in a list of over 50 bird specimens, from 26 species, from 'a collection sent by Father J.-B. Poncelet, missionary in the island of Bougainville and well-known naturalist of this region' [translated from French], to the Muséum National d'Histoire Naturelle in Paris. Poncelet also collected the vulnerable black bittern (*Ixobrychus flavicollis* (Latham, 1790) (Ardeidae)) from Bougainville on 27 December 1935 (Tarburton 2007).

One of the most remarkable records is Poncelet's collection of the first nine specimens of Poncelet's giant rat, *Solomys ponceleti* (Troughton, 1935) (Muridae), known only from the islands of Bougainville, Buka and Choiseul (Flannery 1995). Poncelet visited Ellis Troughton at the Australian Museum in Sydney in 1934 and offered to collect specimens for the museum. In little more than two years he supplied over a hundred specimens of mammals (Troughton 1936), including a young adult female and two skulls that were described by Troughton (1935) as *Uromys ponceleti* Troughton. Poncelet subsequently sent two more specimens of this species to Troughton and four to the Musée Royal d'Histoire Naturelle in Belgium. Only another four specimens are known (Flannery 1995). Adults of this arboreal rodent weigh more than one kilogram and build large, loose stick nests in huge forest trees; the species is considered endangered (Flannery 1995) and was placed on the IUCN Red List of Threatened Animals in 1994.



Poncelet collected 11 specimens of a small bat from Buin, described by Troughton (1936) as *Pipistrellus angulatus ponceleti* Troughton, a subspecies of the New Guinea Pipistrelle (Vespertilionidae). Troughton (1936) also reported that the carefully recorded material sent by Poncelet to the Australian Museum included insects, fish and reptiles, mostly collected in a densely forested area 17 km inland from Buin. Kinghorn (1937) described one of these, a skink, as *Tribolonotus ponceleti* Kinghorn (Scincidae) from a solitary specimen, noting that it was named after Father Poncelet, the 'collector of many excellent specimens of many kinds for the Trustees of the Australian Museum'.

Many years later, Greer and Parker (1968), in their description of *Tribolonotus pseudoponceleti* Greer & Parker (Scincidae), noted that papers accompanying Poncelet's material in the Australian Museum stated that the 'specimens were collected during the months of September and October 1934, by Father J.B. Poncelet S.M., of the Buin Catholic Mission' (Greer and Parker 1968). The Australian Museum database currently records 386 specimens in their collections collected by Poncelet from the Buin district, including 27 species of reptile (95 specimens), one species of possum (8), four species of rodent (32) and bird (4), and eight species each of frog (47), bat (127), and crustacean (72). Curiously, no records of butterflies collected by Poncelet are included in the database.

Père Poncelet was a contemporary of Père Allotte, who also lived and worked at Buin. Allotte is better known to entomologists because of the famous *Ornithoptera* '*allottei*' (Rothschild, 1914) (Fig. 20), collected at Buin in 1913 and which many, including Rothschild, considered to be a distinct species of *Troides* Hübnér or *Ornithoptera* Boisduval. It is now certain that *allottei* is a naturally occurring hybrid between *O. priamus urvillianus* and *O. victoriae* (Haugum and Low 1978, Haugum 1990, Tennent 2002). Père Allotte claimed that it was a hybrid from the beginning and Poncelet is said to have agreed with this assessment (Rousseau-Decelle 1939).

Examination of incoming letters from the North Solomons Region to the Procurator's Office of the Oceania Marist Province Archives confirmed that Poncelet and Allotte were contemporaries. Sixteen letters were received between 4 February 1919 and 26 September 1928 from Jean-Baptiste Poncelet SM [Society of Mary], 1884-1958, and 62 letters were received between 10 February 1905 and 1 July 1927 from Francois Allotte SM (Cook 1986). It would appear from biological publications that Father Poncelet remained on Bougainville for some time after 1928 and Laracy (1976) noted that J.B. Poncelet served in southern Bougainville from 1939-1950 (except for a period from 1942-1946). Nelson (2007) mentioned a diary written by an R.P. Poncelet, a Catholic missionary and Belgian national, who was taken from Bougainville and moved to New Britain by the Japanese in World War II, included in a book by Patrick O'Reilly and Jean-Marie Sedes (1949).

Apparently, Poncelet was a member of the Marist Fathers Order and not a Marist Brother (L. McCane, pers. com.). Poncelet was among the priests who welcomed the first Marist Brothers to Bougainville on their arrival at Torokina on the west coast on 17 June 1948 (McCane 2004). However, it is noted that 'In the North Solomons, benefaction was stimulated by the protestant incursion, particularly in Buin, where J.B. Poncelet was known to bolster wavering faith, not only with tobacco, calico and tinned meat, but with gifts of money. Such tactics were prudently discouraged ...' (Laracy 1976).

Variation in citing Poncelet's initials by Rousseau-Decelle (1946) and Nelson (2007) may be as a result of reference to his title, Rev. Père, as used earlier by Rothschild (1936). It is considered unlikely that both a Belgian and a French missionary of the same surname were present at Buin at much the same time.

### Acknowledgements

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